FIGURE 1

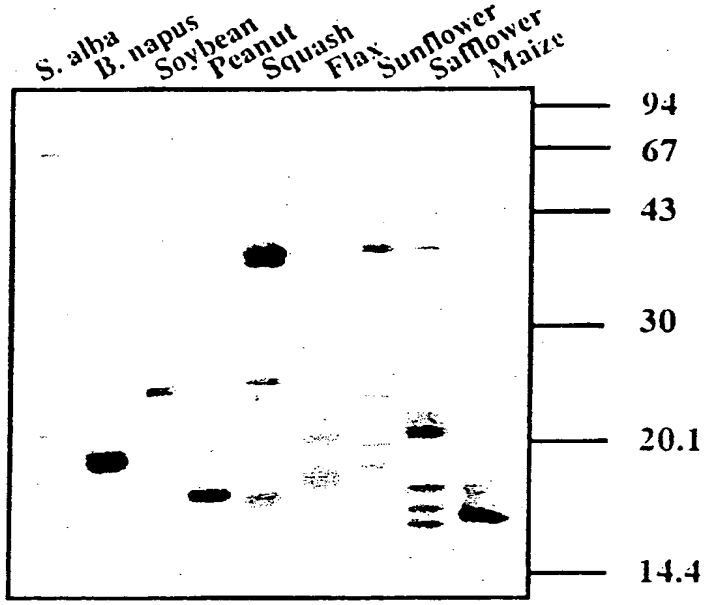

S. alba
B. napus
Soybean
Peanut
Squash
Flax
Sunflower
Safflower
Maize
94
67
43
30
20.1
14.4

FIGURE 2

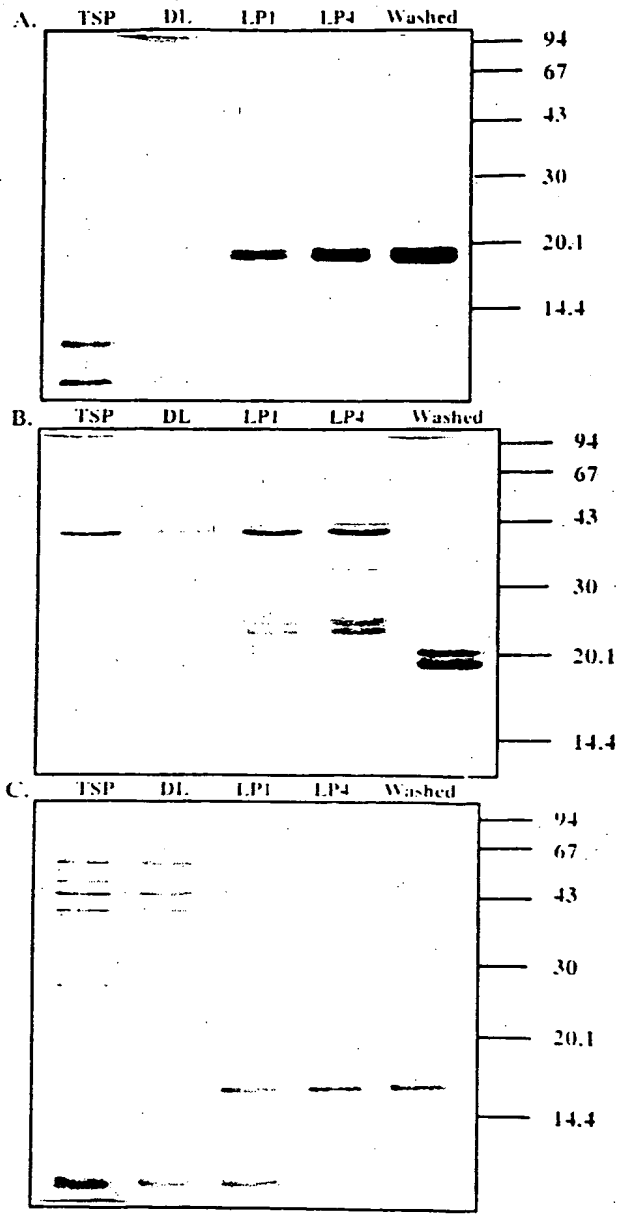

A.
TSP
DL
LP1
LP4
Washed
94
67
43
30
20.1
14.4
B.
TSP
DL
LP1
LP4
Washed
94
67
43
30
20.1
14.4
C.
TSP
DL
LP1
LP4
Washed
94
67
43
30
20.1
14.4

Figure 3: Oil Body Structure

A schematic representation of a plant oil-body. The oil-body contains a central core of triglyceride with a surface layer consisting of a phospholipid monolayer and a protein 'coat' consisting predominantly of oleosin. The model is not drawn to scale as the phospholipid and oleosin are greatly exagerated for illustrative purposes.

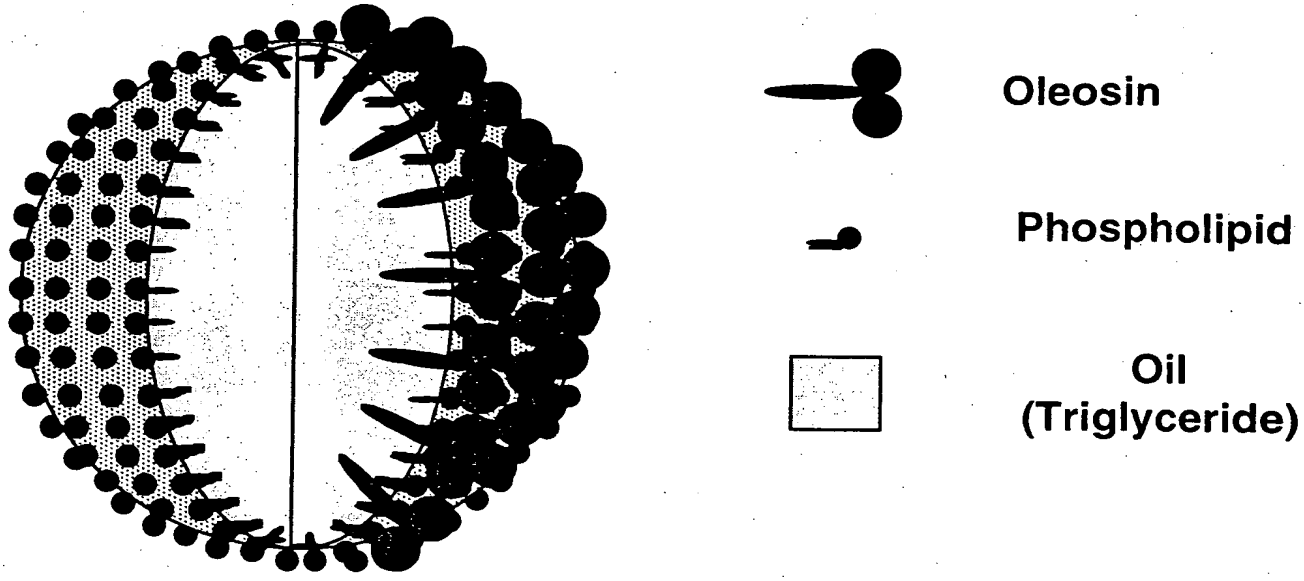


Figure 4. Antigen Coupled to Oil-Body
Antigen that is biotinylated enzymatically at the N-terminus is coupled to a biotinylated preparation of oil-bodies with streptavidin as a bridging ligand. This schematic drawing is not drawn to scale. The proteins (antigen, streptavidin & oleosin), phospholipid and biotin are exaggerated in size for illustrative purposes.

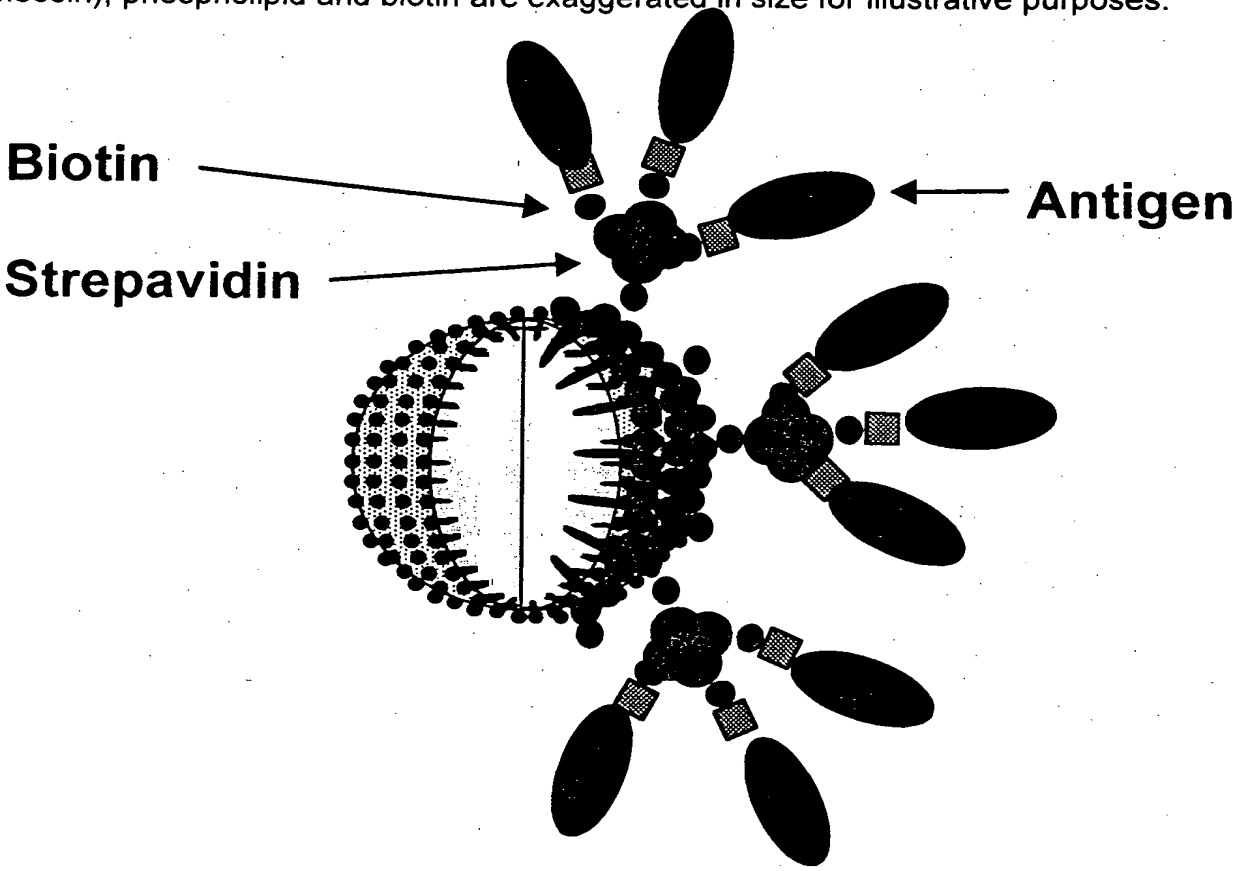


Figure 5: Transgenic Oil-Bodi s Containing Antigen.
A schematic representation of transgenic oil-bodies expressing a foreign antigen as a fusion with the oil-body protein, oleosin. Fusions of antigen to oleosin C- or N-termini are targeted to oil-bodies along with native oleosins. The fused antigen is thus expressed at the oil-body surface similar to antigens on bacterial or viral surfaces. The relative size of the oil-body is dramatically underrepresented in this figure.

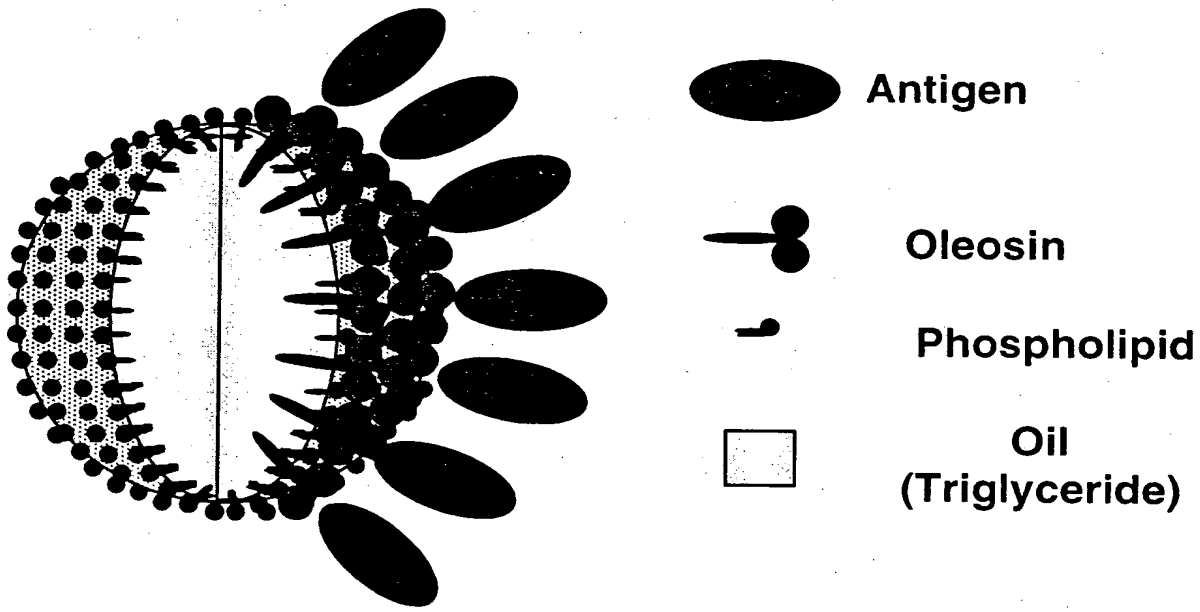
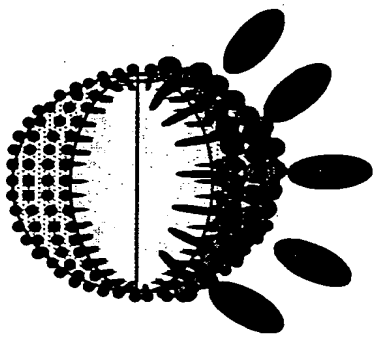
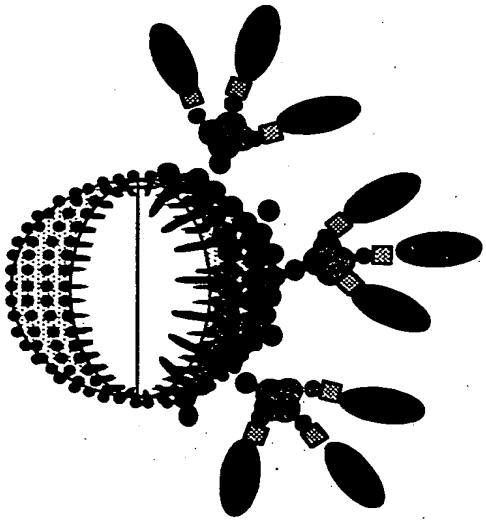


Figure 6: Comparison of Transgenic and Coupled Oil-Body for Antigen Presentation



Transgenic Oil-body
Antigen Presentation



Coupled Oil-body
Antigen Presentation

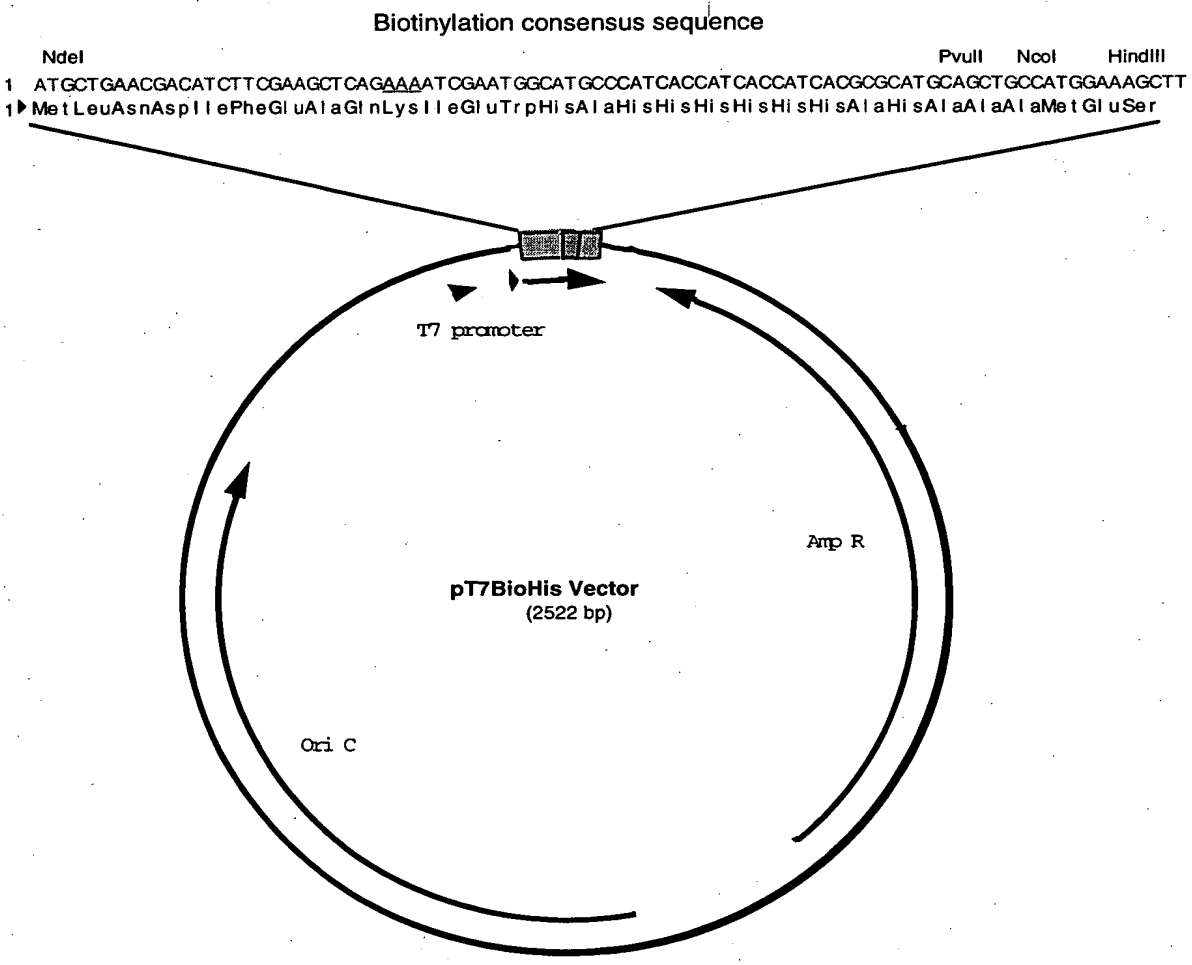


Figure 7. pT7BioHis Vector.
The essential features of the pT7BioHis vector are a T7 promoter for gene expression, the biotinylation consensus sequence shown in the green nucleotides where the epsilon amino group of the Lys residue (underlined) is biotinylated in *E.coli*, the blue nucleotides represent the 6XHis residues and the red nucleotides represent the multiple cloning site. Restriction sites are underlined for NdeI, PvuII, NcoI and HindIII.

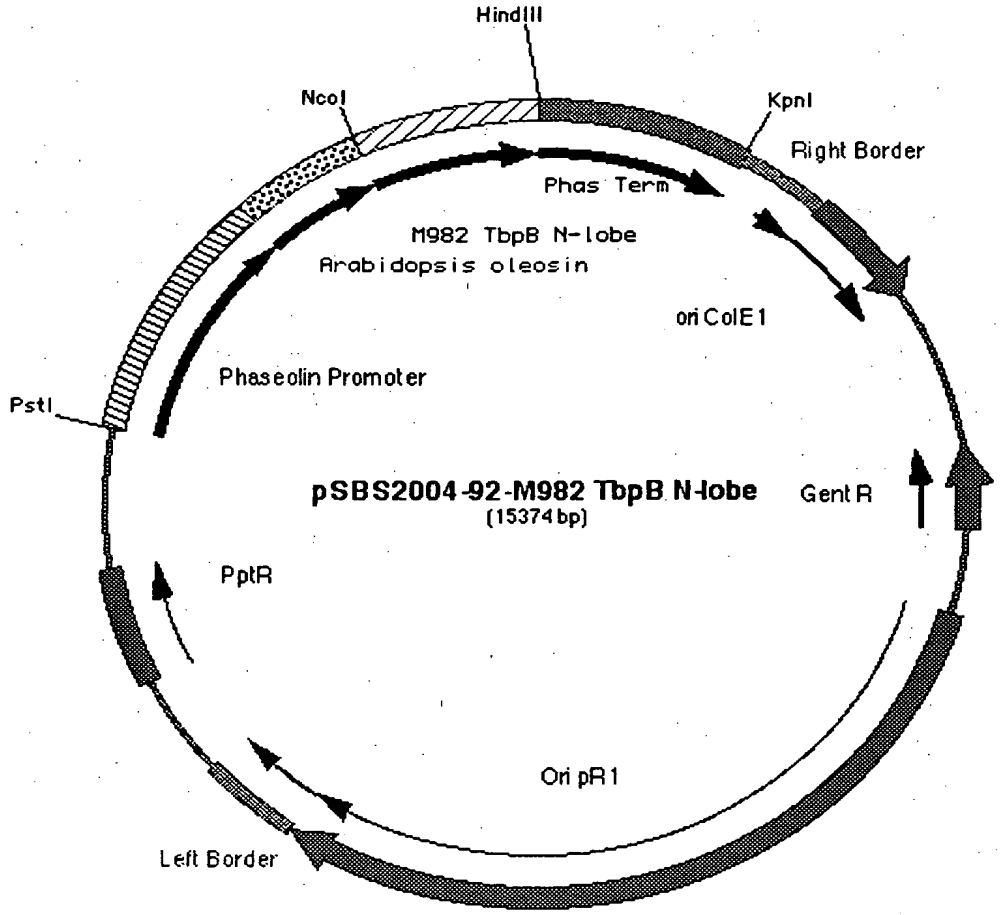


Figure 8: Plant Transformation Vector Encoding A Fusion Between Oleosin and the *Neisseria meningitidis* Transferrin Binding Protein B N-lobe.
The essential features of pSBS2004-92 TbpB N-lobe are OriC and OripR1 for replication in *Escherichia coli* and *Agrobacterium tumefaciens*, respectively, and gentamycin resistance (GentR). The T-DNA segment that is get incoporated into the plant genome lies within the left and right borders and consists of the translational fusion between the Arabidopsis oleosin and M982 TbpB N-lobe driven is by the phaseolin promoter and its terminator and the herbicide selection marker, phosphinothricin (PptR).

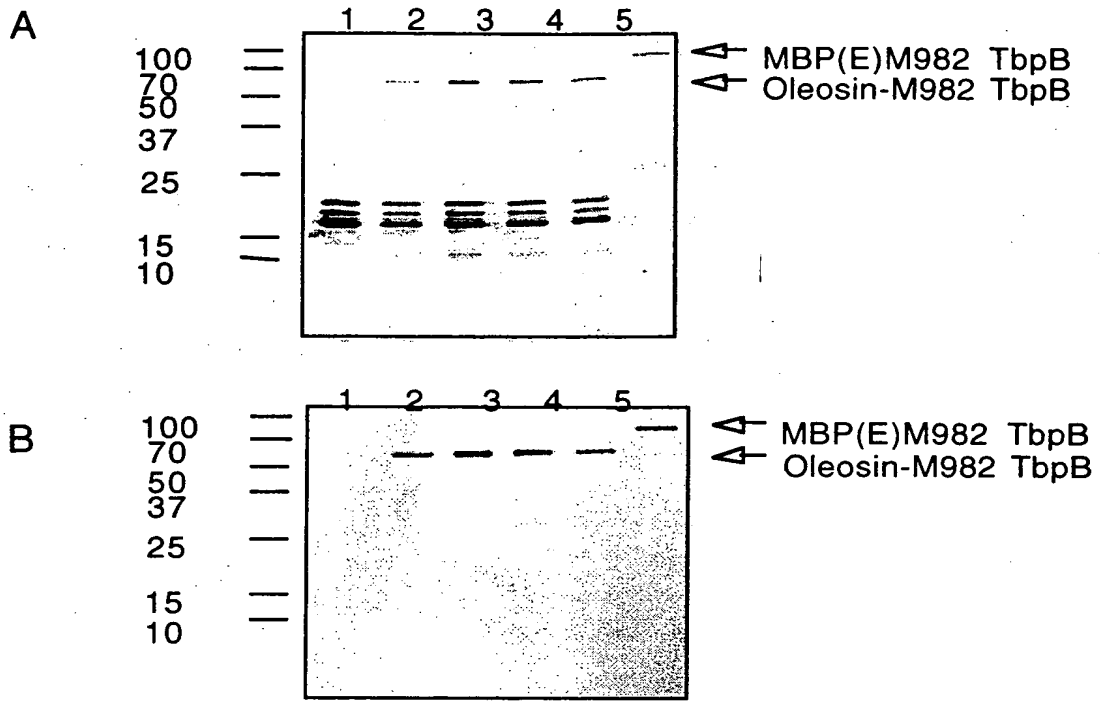


Figure 9. Analysis of *Arabidopsis* oil-bodies expressing oleosin-M982 TbpB N-lobe. Oil-bodies from several clones of transgenic *Arabidopsis* plants expressing the *N. meningitidis* strain M982 transferrin binding protein B (TbpB) N-lobe as a fusion with oleosin were analyzed for expression of fusion protein.
Panel A - A 15% SDS-PAGE gel stained for protein with Coomassie blue.
Panel B- A Western blot of the SDS-PAGE gel developed with polyclonal antibodies against M982 TbpB.
Lane 1-oil-bodies from wild *Arabidopsis* ; lane 2 - oil-bodies from N1 transgenic line; lane 3 - oil-bodies from N2 transgenic line; lane 4- oil-bodies from N3 transgenic line; lane 5 - oil-bodies from N4 line, and lane 6 - purified MBP-N-lobe fusion protein isolated from *E. coli*.

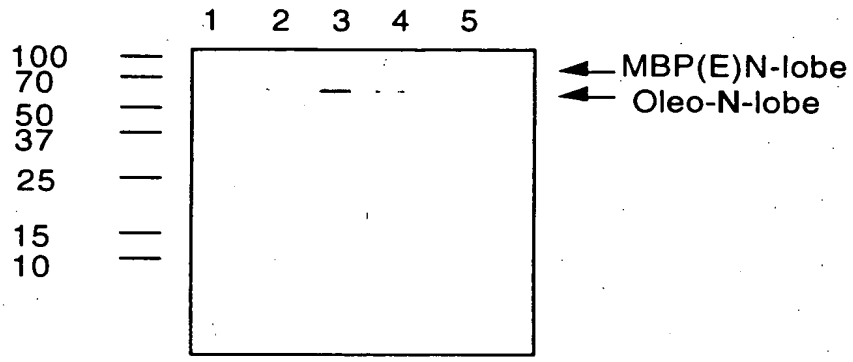


Figure 10. Transferrin binding analysis of transgenic *Arabidopsis* oilbodies expressing oleosin-M982 TbpB N-lobe.
Oil-bodies from several clones of transgenic *Arabidopsis* plants expressing the *N. meningitidis* strain M982 transferrin binding protein B (TbpB) N-lobe as a fusion with oleosin were analyzed for binding of human transferrin. A duplicate SDS-PAGE gel described in Figure 7 was electroblotted and subsequently probed with with human transferrin conjugated to horse radish peroxidase.
Lane 1-oil-bodies from wild *Arabidopsis* ; lane 2 - oil-bodies from N1 transgenic line; lane 3 - oil-bodies from N2 transgenic line; lane 4- oil-bodies from N3 transgenic line; lane 5 - oil-bodies from N4 line, and lane 6 - purified MBP-N-lobe fusion protein isolated from *E. coli*.